

This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Assays & screens			
Paper-based diagnostics using synthetic gene networks	<p>Cell-free synthetic gene networks embedded in paper discs could be used to develop rapid, point-of-care diagnostics. Paper discs embedded with synthetic RNA switches and gene expression systems could be freeze-dried and reactivated with water. Binding between mRNA in a sample applied to the disc and its complementary RNA switch on the disc activated the gene expression system that produced a fluorescent or colorimetric output signal. In proof-of-concept experiments, paper discs containing designed RNA switches successfully detected bacterial mRNAs associated with antibiotic resistance and distinguished between strain-specific mRNAs from two strains of Ebola virus. Next steps include expanding the applications of this platform for diagnostic, research and educational applications.</p> <p>SciBX 7(45); doi:10.1038/scibx.2014.1327 Published online Nov. 20, 2014</p>	Patent applications filed; available for licensing	Pardee, K. <i>et al. Cell</i> ; published online Oct. 23, 2014; doi:10.1016/j.cell.2014.10.004 Contact: James J. Collins, Harvard University, Cambridge, Mass. e-mail: jcollins@bu.edu